

Jennifer Rivera (Administration)

From: Katie G. Ahmed (Planning)
Sent: Thursday, August 27, 2026 8:04 PM
To: Jennifer Rivera (Administration)
Subject: Fw: 5-Star review of UDC revisions.
Attachments: Data Center Amendment v2.pdf

Jennifer,

Attached is the presentation from Gregg Rutledge for the record.

Thank you,
Katie Ahmed
Director of Planning and Zoning
Hall County Government
(office) [770-297-2649](tel:770-297-2649)
(mobile) [678-971-8816](tel:678-971-8816)
kahmed@hallcounty.org

From: Greg RUTLEDGE [REDACTED]
Sent: Monday, 17 August 2026 09:20:47
To: Vamsee Polamarasetty (Planning) <vpolamarasetty@hallcounty.org>; Katie G. Ahmed (Planning) <kahmed@hallcounty.org>
Subject: 5-Star review of UDC revisions.

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Good morning Vamsee and Katie --

I finally had the time to review the proposed UDC docs. FIVE-STAR reviews from here. Outstanding work in a very short time. So three points follow:

The 27 August BOC voting meeting

I would like to speak in *favor* of the PD, Data Center (and Reversion) codes **IF** public comment is a part of this meeting.

Data Center

The Data Center one gets a high grade, yet being me, I'm suggesting an addendum to address AI/machine-learning data center specifics. NO changes in the main body, just a suggested addendum. I have attached my draft addendum document.

PD

The PD text is, in my opinion, just about perfect.

I discussed the proposed PD UDC text with some members of our core group here in the Yellow Creek neighborhood, and they were similarly pleased. Below is some of their feedback:

We're very pleased with the inclusion of 6.1.6.C.1.L, because it explicitly authorizes the planning team to require a specialized study when a site's conditions warrant it. Thank you for adding that.

Specifically, we see that authority as critical for any major development at 6166 Yellow Creek, because the 253-acre tract contains the last unimpaired headwaters of Yellow Creek, which directly border and flow into Corps-managed, designated wetlands. These conditions cannot be evaluated through general watershed studies. Under 6.1.6.C.1.L, the County can require an individual (site-specific, parcel-specific) EPA/EPD environmental study before any PD approval or land-disturbing activity — and this language effectively prevents the developer from bare-earthing ("red clay moonscape") or clear-cutting and mulching the acreage absent a full, site-specific environmental review and approved plan.

Given how important this authority is for environmentally sensitive sites, we recommend the County consider adding a parallel 'umbrella' clause to the UDC so that specialized studies can be required for any development type, not just PD applications. The same environmental risks exist regardless of zoning pathway and extending this authority County-wide would ensure consistent protection of headwaters, wetlands, and other critical resources. The PD specialized study language is excellent; expanding that authority across the UDC would make the UDC even stronger, and better empowered to enforce the intent of the Comprehensive Plan.

The extensive use of "shall" throughout and explicitly placing the burden of proof on the applicant add tremendously to the strength of the code.

I'll close with a personal note: Vamsee and Katie, this is excellent work — truly. It's disciplined, structurally sound, enforceable, and exactly the kind of thoughtful work I've come to expect from you and your team; I'm very pleased with the result.

Very respectfully,

Greg Rutledge



7724 Barkers Bend Dr.
Murrayville, GA 30564

Suggested AI/Machine-Learning Data Center Amendment(s)

Section X: Functional Classification of Data Centers

Purpose: This section establishes workload-based classifications to ensure that regulatory requirements correspond to the actual operational characteristics of data centers of various and specific kinds. Size alone does not adequately characterize environmental impact, lifecycle risk, or infrastructure rigidity.

Amendment: Please consider adding the following definitions:

1. **Training Data Center** An AI/ Machine-Learning Training Data Center is a facility primarily engaged in large-scale machine learning model training. These facilities typically exhibit power densities exceeding 300 W/ft², rely on liquid cooling or equivalent high-capacity thermal management, use specialized GPU-fabric networking, and operate within narrow thermal and electrical envelopes. They are also the primary source of real quality of life issues caused by audible and sub-tonal noise, heat and vibration. [REM: these training centers are the type of data center that should largely be prohibited in Hall County, for cause.]
2. **Inference Data Center** An Inference Data Center is a facility primarily engaged in model inference, general compute, or distributed processing. These facilities exhibit moderate power density, rely on air-cooling or low-intensity liquid cooling, use conventional networking architectures, and operate within stable thermal and electrical envelopes. [REM: regulate, approve and oversee/inspect these in Hall County.]
3. **General Compute Facility** A General Compute Facility is a facility engaged in conventional compute workloads without specialized training or inference hardware. [REM: These are all the other categories mentioned in the draft, the ones unrelated to AI or “machine learning.”]
4. **Applicability** Size-based categories (small, medium, large, campus) can remain in effect, yet should be augmented by the following material criteria:
 - workload classifications shall be applied in addition to size categories for purposes of siting, mechanical yard design, noise and vibration standards, abandonment risk assessment, and decommissioning plans.
 - [REM: this protects the County and the residents from approving a buildout that ends up ‘being a problem’ unrelated to its size, and those issues could have been avoided by inspecting these added criteria in any application.]

Section X-A: Workload Declaration Requirement

Purpose: This section ensures that the County receives accurate information regarding the operational workload of proposed AI/machine-learning data centers, which is necessary for appropriate land-use review and enforcement.

Amendment:

1. **Workload Declaration** Each data center applicant shall declare whether the proposed facility is intended to operate as a Training Data Center, an Inference Data Center, or a General Compute Facility.
2. **Basis for Determination** The declaration shall be supported by anticipated power density, cooling system type, network and building architecture, and hardware class to be deployed.
3. **Intent to Change Workload Type or Composition** If the facility owner or operator intends to change the existing approved and primary workload at any time after approval, the county shall be provided a written letter of intent no less than 60 days prior to the proposed change. The letter shall specify the anticipated new workload classification, the expected power and cooling envelope, the network architecture, and the hardware class to be deployed. Any change in workload classification shall require review and approval by the Hall County Planning Department and a majority vote of the Hall County Board of Commissioners.

Section X-B: Optional Prohibition of AI Training Centers

Purpose: This section provides a mechanism for jurisdictions that choose to limit high-risk, high-density AI training facilities due to their demonstrated and projected elevated abandonment risk and specialized infrastructure requirements.

Amendment (optional):

1. **AI/Machine-Learning Training Facility Restriction** AI/Machine-Learning Training Data Centers shall not be approved within Hall County unless explicitly authorized by future ordinance.
2. **Applicability** This restriction does not apply to AI/Machine-Learning Inference Data Centers or General Compute Facilities.
3. **Intent** This provision is intended to limit AI/Machine-Learning facilities specifically, and any other categories that present elevated abandonment risk, rely on extreme power density, and require specialized cooling systems that create rigid physical layouts and reduce long-term adaptability. Furthermore, AI/Machine-Learning Training-class centers often incorporate reinforced slabs, embedded trenching,

fixed anchor points, coolant lines, and conduit paths engineered for narrow GPU-pod geometry. [REM: These elements create physical constraints that are difficult and costly to reconfigure for lighter or different workloads. When silicon architectures shift, such facilities are more susceptible to becoming stranded assets. Translation—the facility is abandoned/decommissioned because this path has the lowest cost. Requiring applicants to declare training versus inference at application time—or prohibiting training centers entirely—supports long-term land-use stability and reduces the likelihood of abandonment.]

Section Y: Technology-Driven Abandonment Risk Mitigation

Purpose: This section ensures that applicants identify and plan for the lifecycle risks associated with rapid changes in training-class silicon, cooling requirements, and interconnect standards.

Amendment:

1. **Lifecycle Risk Assessment** Applicants shall submit a lifecycle risk assessment that identifies the expected hardware refresh cycle, the cooling and electrical envelope required for the current generation of training hardware, the degree to which the facility’s physical infrastructure is adaptable to lower-density or different-geometry compute loads, and the conditions under which the facility may become non-viable due to step-change silicon. [REM: a real-world example of this is SoC (systems on a chip) that will soon move from bespoke to mainstream and represent a disruptive technology vis-à-vis the current technology architectures.]
2. **Adaptability Plan** Applicants shall provide a plan describing how the facility can be repurposed for inference or general compute workloads if training-class hardware becomes obsolete. [REM: require applicants to be specific, not broad-brush to protect the County and its residents]
3. **Trigger Conditions** The county may require an updated assessment if the facility’s primary workload changes, (see the letter of intent piece herein) if the operator transitions from training to inference, or if the operator ceases training operations for more than 180 days.

Section Z: Noise, Vibration, and Sub-Tonal Emissions

Purpose: This section supplements standard noise limits with testing protocols that capture low-frequency and vibration characteristics associated with high-density cooling and mechanical systems used in training-class facilities.

Amendment:

1. **Low-Frequency Noise Measurement** Facilities shall conduct low-frequency noise testing from 10 Hz to 200 Hz using industry-standard instrumentation. Results shall be included in the initial permit application and updated upon major equipment replacement. [REM: one of the real complaints about data centers is ‘a low hum you feel more than hear, and it never stops’ or ‘a vibration you can feel but not hear.’ This is low frequency sound and vibration (see below) that can propagate in the ground a LONG way from a large facility]
 - **Vibration Testing** Facilities shall conduct ground-coupled vibration testing at property boundaries and at the nearest occupied structures. Testing shall measure RMS vibration levels, peak particle velocity, and harmonic signatures associated with pumps, chillers, and generator farms. [REM: this supports and specifies how to regulate and test the criteria]
 - **Sub-Tonal Emissions** Facilities shall measure sub-tonal emissions generated by mechanical systems operating under load. Testing shall identify any resonance effects that may propagate beyond the property boundary.
2. **Mitigation Requirements** If testing identifies emissions exceeding thresholds established by the county, the operator shall implement mitigation measures such as mechanical isolation, vibration dampening, equipment balancing, or operational scheduling.

Section Z-A: Structural Constraints and Reconfiguration Limitations

Purpose: This section clarifies the physical constraints that limit the adaptability of training-class facilities and explains why these constraints increase abandonment risk.

Supplemental Statement: Training-class facilities often include reinforced slabs, specialized trenching, embedded conduits, coolant lines, and fixed anchor points engineered for GPU-pod geometry. These elements create rigid physical layouts that prevent flexible reconfiguration. When workloads shift, such facilities are more expensive to retrofit than to abandon. This condition should be considered in siting, approval, and lifecycle planning for Training Data Centers. [REM: The ‘easy button’ is “just say no” to training centers, not inference centers.]